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| 10/014,602 | 12/14/2001 | Oran Uzrad-Nali | Q66695 | 2020 |
| 23373 | 7590 | 04/07/2005 | EXAMINER | |
| SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037 | | | ENGLAND, DAVID E | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2143 | |

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/014,602

Applicant(s)

UZRAD-NALI ET AL.

Examiner

David E. England

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-77 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-77 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/6/03, 4/10/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1 – 77 are presented for examination.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “the dedicated communication link is selected from a group consisting of personal computer interface (PCI), PCI-X 3GIO, InfiniBand, SPI-3, or SPI-4” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 – 43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

5. In claim 1, the limitation of “said data streamer capable of transferring data between said host and network resources using a memory location without moving the data within the memory location” does not have support in the specification as to how one of ordinary could transfer data between a host and network resource without moving the data within the memory in the Applicant’s system.

6. Claims 2 – 43 are rejected for their dependency on claim 1.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 3, 6, 24 – 26 and 56 – 58 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 3 recites the limitation "the computer". There is insufficient antecedent basis for this limitation in the claim.

10. Claims 24 – 26 and 56 – 58 recite the limitation "the header". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1 – 10, 12 – 19, 21 – 26, 28 – 51, 53 – 58 and 60 – 77 are rejected under 35 U.S.C. 102(e) as being anticipated by Starr et al. U.S. Patent No. 6807581, (hereinafter Starr).

13. Referencing claim 1, as closely interpreted by the Examiner, Starr teaches a networked system comprising:

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14. a host computer, (e.g., col. 5, lines 26 – 39);
15. a data streamer connected to said host computer, said data streamer capable of transferring data between said host and networked resources using a memory location without moving the data within the memory location, (e.g., col. 5, lines 26 – 39, “*INIC*” & col. 7, lines 8 – 23, “*copying*”);
16. a communication link connecting said data streamer and networked resources, (e.g., col. 5, lines 26 – 39).
17. Referencing claim 2, as closely interpreted by the Examiner, Starr teaches said communication link is a dedicated communication link, (e.g., col. 5, lines 26 – 39).
18. Referencing claim 3, as closely interpreted by the Examiner, Starr teaches said host computer is used solely for initializing the computer, (e.g., col. 5, lines 26 – 39).
19. Referencing claim 4, as closely interpreted by the Examiner, Starr teaches the networked resources include networked storage devices, (e.g., col. 5, lines 40 – 52, “*storage unit 66*”).
20. Referencing claim 5, as closely interpreted by the Examiner, Starr teaches the dedicated communication link is a network communication link, (e.g., col. 5, lines 26 – 39).

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21. Referencing claim 6, as closely interpreted by the Examiner, Starr teaches the dedicated communication link is selected from a group consisting of personal computer interface (PCI), PCI-X, 3GIO, InfiniBand, SP1-3, or SPI-4, (e.g., col. 3, lines 9 – 28).

22. Referencing claim 7, as closely interpreted by the Examiner, Starr teaches the network communication link is a local area network (LAN) link, (e.g., col. 5, lines 26 – 39).

23. Referencing claim 8, as closely interpreted by the Examiner, Starr teaches the network communication link is Ethernet based, (e.g., col. 3, lines 43 – 57).

24. Referencing claim 9, as closely interpreted by the Examiner, Starr teaches the network communication link is a wide area network (WAN), (e.g., col. 5, lines 26 – 39).

25. Referencing claim 10, as closely interpreted by the Examiner, Starr teaches the network communication link uses an Internet protocol (IP), (e.g., col. 7, lines 23 – 42).

26. Referencing claim 12, as closely interpreted by the Examiner, Starr teaches

27. at least one host interface, interfacing with said host computer, (e.g., col. 5, lines 26 – 52);

28. at least one network interface, interfacing with the networked resources, (e.g., col. 5, lines 26 – 52);

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29. at least one processing node, capable of generating additional data and commands necessary for network layer operations, (e.g., col. 11, line 40 – col. 12, line 22);
 30. an admission and classification unit that initially processes the data, (e.g., col. 12, lines 23 – 54);
 31. an event queue manager that supports processing of the data, (e.g., col. 24, line 59 – col. 25, line 13);
 32. a scheduler that supports processing of the data, (e.g., col. 25, lines 14 – 38);
 33. a memory manager that manages the memory, (e.g., col. 25, line, 54 – col. 26, line 11);
 34. a data interconnect unit that receives the data from said admission and classification unit, (e.g., col. 21, lines 8 – 38, “*sequencer*”); and
 35. a control hub, (e.g., col. 21, lines 8 – 38, “742, 744”).
-
36. Referencing claim 13, as closely interpreted by the Examiner, Starr teaches said processing node is further connected to an expansion memory, (e.g., col. 21, lines 8 – 38).
 37. Referencing claim 14, as closely interpreted by the Examiner, Starr teaches said expansion memory is a code memory, (e.g., col. 21, lines 8 – 38).
 38. Referencing claim 15, as closely interpreted by the Examiner, Starr teaches said processing node is a network event processing node, (e.g., col. 21, lines 8 – 38).

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39. Referencing claim 16, as closely interpreted by the Examiner, Starr teaches said network event processing node is a packet processing node, (e.g., col. 21, lines 8 – 38).

40. Referencing claim 17, as closely interpreted by the Examiner, Starr teaches said network event processing node is a header processing node, (e.g., col. 12, lines 55 – 67).

41. Referencing claim 18, as closely interpreted by the Examiner, Starr teaches said host interface is selected from a group consisting of PCI, PCI-X, 3GIO, InfiniBand, SPI-3, and SPI-4, (e.g., col. 3, lines 9 – 28).

42. Referencing claim 22, as closely interpreted by the Examiner, Starr teaches said event queue manager is capable of managing at least:

43. an object queue, (e.g., col. 17, lines 37 – 57); and

44. an application queue, (e.g., col. 17, lines 37 – 57).

45. Referencing claim 23, as closely interpreted by the Examiner, Starr teaches said object queue points to a first descriptor while first header is processed, (e.g., col. 17, lines 37 – 57).

46. Referencing claim 24, as closely interpreted by the Examiner, Starr teaches the header processed is in the second communication layer, (e.g., col. 17, lines 37 – 57).

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47. Referencing claim 25, as closely interpreted by the Examiner, Starr teaches the header processed is in the third communication layer, (e.g., col. 17, lines 37 – 57).

48. Referencing claim 26, as closely interpreted by the Examiner, Starr teaches the header processed is in the fourth communication layer, (e.g., col. 17, lines 37 – 57).

49. Referencing claim 28, as closely interpreted by the Examiner, Starr teaches said object queue holds at least the start address to the header information, (e.g., col. 30, line 53 – col. 31, line 9).

50. Referencing claim 29, as closely interpreted by the Examiner, Starr teaches said object queue hold at least the end address to the header information, (e.g., col. 30, line 53 – col. 31, line 9).

51. Referencing claim 30, as closely interpreted by the Examiner, Starr teaches said application queue points to said descriptor instead of said object queue if at least an application header is available, (e.g., col. 16, line 63 – col. 17, line 17 & col. 21, lines 7 – 38).

52. Referencing claim 31, as closely interpreted by the Examiner, Starr teaches said descriptor points at least to the beginning of the application header, (e.g., col. 16, line 63 – col. 17, line 17 & col. 21, lines 7 – 38).

53. Referencing claim 32, as closely interpreted by the Examiner, Starr teaches said application queue maintains address of said beginning of application header, (e.g., col. 16, line 63 – col. 17, line 17 & col. 21, lines 7 – 38).

54. Referencing claim 33, as closely interpreted by the Examiner, Starr teaches said descriptor points at least to the end of said application header, (e.g., col. 16, line 63 – col. 17, line 17 & col. 21, lines 7 – 38).

55. Referencing claim 34, as closely interpreted by the Examiner, Starr teaches said application queue maintains address of said end of application header, (e.g., col. 16, line 63 – col. 17, line 17 & col. 21, lines 7 – 38).

56. Referencing claim 35, as closely interpreted by the Examiner, Starr teaches when all the application headers are available, data is transferred to said host in a continuous operation, (e.g., col. 16, line 63 – col. 17, line 17 & col. 21, lines 7 – 38).

57. Referencing claim 36, as closely interpreted by the Examiner, Starr teaches said continuous operation is based on pointer information stored in said application queue, (e.g., col. 16, line 63 – col. 17, line 17 & col. 21, lines 7 – 38).

58. Referencing claim 37, as closely interpreted by the Examiner, Starr teaches the system is adapted to receive at least one packet of data with headers from a network resource and opening

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a new descriptor if the headers do not belong to a previously opened descriptor, (e.g., col. 32, lines 18 – 39).

59. Referencing claim 38, as closely interpreted by the Examiner, Starr teaches the system is adapted to store the start and end address of the headers in the object queue, (e.g., col. 32, lines 18 – 39).

60. Referencing claim 39, as closely interpreted by the Examiner, Starr teaches the system is adapted to transfer control of the descriptor to the application queue if at least one application header is available and is further adapted to store a start and end address of the application header in the application queue, (e.g., col. 32, lines 18 – 39).

61. Referencing claim 40, as closely interpreted by the Examiner, Starr teaches the system is adapted to transfer the data to the host based on the stored application headers, (e.g., col. 32, lines 18 – 39).

62. Referencing claim 41, as closely interpreted by the Examiner, Starr the system is adapted to receive data and a destination address from the host computer, and further wherein the system is adapted to queue the data in a transmission queue, (e.g., col. 32, lines 18 – 39).

63. Referencing claim 42, as closely interpreted by the Examiner, Starr teaches the system is adapted to update an earlier created descriptor to point to a portion of the data that is to be sent next, (e.g., col. 32, lines 18 – 39).

64. Referencing claim 43, as closely interpreted by the Examiner, Starr teaches the system is adapted to create headers and attach the portion of the data to the headers and transmit them over the network, (e.g., col. 32, lines 18 – 39).

65. Claims 19, 21, 44 – 51, 53 – 58 and 60 – 77 are rejected for similar reasons as stated above.

Claim Rejections - 35 USC § 103

66. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

67. Claims 11, 20, 27, 52 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Starr as applied to claims 1, 22 and 23 above, and further in view of Muller et al. (6453360), (hereinafter Muller).

68. As per claim 11, as closely interpreted by the Examiner, Starr does not specifically teach the network communication link uses an asynchronous transfer mode (ATM) protocol. Muller teaches the network communication link uses an asynchronous transfer mode (ATM) protocol, (e.g., col. 52, lines 54 – 64). It would have been obvious to one of ordinary skill in the art, at the time the invention was filed, to combine Muller with Starr because it gives the system the diversity to implement a set of instructions (e.g., software) rather than as hardware modules.

69. As per claim 27, as closely interpreted by the Examiner, Starr does not specifically teach said object queue points to a second descriptor if the second header has the same tuple corresponding to the first header. Muller teaches said object queue points to a second descriptor if the second header has the same tuple corresponding to the first header, (e.g., col. 25, lines 16 – 27). It would have been obvious to one of ordinary skill in the art, at the time the invention was filed, to combine Muller with Starr because if the second header “tuple” or address is different then the first address there could be an error in addressing the packet to a specific user, therefore, the system would have to send an error message to the sending node to notify the sending node about the error so it can be remedied.

70. Claims 20, 52 and 59 are rejected for similar reasons as stated above.

Conclusion

71. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

72. a. Craft et al. U.S. Patent No. 6687758 discloses Port aggregation for network connections that are offloaded to network interface devices.

73. b. Wilson et al. U.S. Patent No. 6738821 discloses Ethernet storage protocol networks.

74. c. Maciel U.S. Patent No. 6826622 discloses Method of transferring data between memories of computers.

75. d. Almulhem et al. U.S. Patent No. 6587431 discloses Supertrunking for packet switching.

76. e. Boucher et al. U.S. Patent No. 6226680 discloses Intelligent network interface system method for protocol processing.

77. f. Ankireddipally et al. U.S. Patent No. 6772216 discloses Interaction protocol for managing cross company processes among network-distributed applications.

78. g. Cheriton et al. U.S. Patent No. 6675200 discloses Protocol-independent support of remote DMA.

79. h. Mahler et al. U.S. Patent No. 6675218 discloses System for user-space network packet modification.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. England whose telephone number is 571-272-3912.

The examiner can normally be reached on Mon-Thur, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David E. England
Examiner
Art Unit 2143

De



Will C. Vaughn
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